WHAT IS CLAIMED IS:

31. (previously presented) A method for determining receptivity of the endometrium for implantation, the method comprising the steps of:

a) isolating RNA from a blood sample or tissue sample; and

b) quantitatively measuring in said blood sample or said tissue sample the expression or over expression of mRNA of at least one of ß7-hCG, ß6-hCG, and ß6e-hCG;

c) determining the receptivity as follows:

1. no ß7-hCG, ß6-hCG, and ß6e-hCG is detected: the endometrium is not receptive;

2. at least one of ß7-hCG, ß6-hCG, and ß6e-hCG is detected: the endometrium is receptive for implantation.

32. (withdrawn) The method according to claim 31, further comprising the steps of:

c) additionally quantitatively measuring total ßhCG mRNA expression or mRNA expression of at least one of ß5-hCG, ß8-hCG, ß3-hCG; and

d) bringing into relation measured values of the step c) with measured values of the step b).

33. (withdrawn) The method according to claim 32, wherein in at least one of the steps b) and c) quantitative RT-PCR or real-time RT-PCR is used.

34. (withdrawn) The method according to claim 33, wherein, based on the cDNA obtained by reverse transcriptase (RT), total ß-hCG cDNA is amplified in the first PCR step with at least one first primer pair comprised of a first primer and a second primer, wherein the first primer pair hybridizes with cDNA of ß5-hCG, ß8-hCG, ß3-hCG as well as ß7-hCG and ß6-hCG and ß6e-hCG, and in a subsequent second PCR step the cDNA of at least one of ß7-hCG, ß6-hCG, and ß6e-hCG is specifically amplified with at least one third primer, wherein the third primer specifically hybridizes with cDNA of ß7-hCG and ß6-hCG and ß6e-hCG, but not with cDNA of ß5-hCG, ß8hCG, and ß3-hCG.

35. (withdrawn) The method according to claim 34, wherein in the second PCR step additionally the cDNA of at least one of ß5-hCG, ß8-hCG, and ß3-hCG is specifically amplified with at least one fourth primer, wherein the fourth primer hybridizes specifically

with the cDNA of ß5-hCG, ß8-hCG and ß3-hCG but not with the cDNA of ß7-hCG and ß6-hCG and ß6e-hCG.

36. (withdrawn) The method according to claim 34, wherein the at least one first primer pair are oligonucleotides selected from the group of sequences consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 11, and SEQ ID NO. 14, wherein the third primer is an oligonucleotide selected from the group of sequences consisting of SEQ ID NO. 3, SEQ ID NO. 9, SEQ ID NO. 10, SEQ ID NO. 13, and SEQ ID NO. 16.

37. (withdrawn) The method according to claim 35, wherein the fourth primer is an oligonucleotide selected from the group of sequences consisting of SEQ ID NO. 4, SEQ ID NO. 8, SEQ ID NO. 12, and SEQ ID NO. 15.

38. (withdrawn) The method according to claim 35, wherein at least one of the first, second, third and fourth primers is fluorescence marked.

39. (withdrawn) The method according to claim 38, wherein one of the first and second primers of the first primer pair, the third primer and optionally the fourth primer are provided with fluorescence markers that differ from one another with regard to adsorption and/or emission spectra.

40. (canceled)

41. (previously presented) The method according to claim 31, wherein the blood sample is taken from peripheral blood and the tissue sample is taken from tissue of the endometrium or the cervix of a female patient for determining the receptivity of the endometrium for an embryo in the actual cycle.

42. (previously presented) The method according to claim 31, wherein the blood sample is taken from menstrual blood of the past cycle for determining the receptivity of the endometrium for an embryo in the subsequent cycle.

43. (withdrawn) The method according to 31 for tumor diagnosis.

44. (withdrawn) The method according to claim 43, wherein, for detecting uterine carcinoma, the tissue sample is removed from the endometrium or cervix of a female patient.

45. (withdrawn) The method according to claim 43, wherein values of the mRNA expression in the tissue sample are compared to values of the mRNA expression in healthy tissue.

46. (withdrawn) The method according to claim 43, wherein a value of promoter expression of at least one of ß5-hCG, ß8-hCG, and ß3-hCG is determined and is divided by the mRNA expression of total ßhCG and, based on the resulting quotient, conclusions in regard to a degree of malignancy of the tumor are drawn.

47. (withdrawn) A primer sequence selected from the group consisting to SEQ ID NO. 3, SEQ ID NO. 4, SEQ ID NO. 8 to SEQ ID NO. 16.

48. (withdrawn) A diagnostic kit for determining specific conditions or changes in the uterus by quantitative RT-PCR comprising:

a) oligo-dT,

b) enzyme reverse transcriptase,

c) at least two primers hybridizing with cDNA of at least one of ß7-hCG, ß6-hCG, and ß6e-hCG, wherein at least one of the two primers does not hybridize with at least one of ß5-hCG, ß8-hCG, and ß3-hCG,

d) a DNA polymerase resistant above 80 °C, and

e) reaction buffer.

49. (withdrawn) The diagnostic kit according to claim 48, wherein the at least two primers comprise:

a first primer pair comprised of a first primer and a second primer wherein the first primer pair hybridizes with cDNA of ß5-hCG, ß8-hCG, and ß3-hCG as well as ß7-hCG, ß6-hCG, and ß6e-hCG; and

a third primer that hybridizes specifically with cDNA of ß7-hCG and ß6-hCG and ß6e-hCG but not with cDNA of ß5-hCG, ß8-hCG, ß3-hCG.

50. (withdrawn) The diagnostic kit according to claim 49, wherein the at least two primers comprise a fourth primer that hybridizes specifically with cDNA of ß5-hCG, ß8-hCG, and ß3-hCG but not with cDNA of ß7-hCG and ß6-hCG and ß6e-hCG.

51. (withdrawn) The diagnostic kit according to claim 49, wherein the first primer pair is selected from the group of sequences consisting of SEQ ID NO. 1, SEQ ID NO. 2, SEQ ID NO. 11 and SEQ ID NO. 14, and wherein the third primer is selected from the group of sequences consisting of SEQ ID NO. 3, SEQ ID NO. 9, SEQ ID NO. 10, SEQ ID NO. 13, and SEQ ID NO. 16.

52. (withdrawn) The diagnostic kit according to claim 50, wherein the fourth

primer is selected from the group of sequences consisting of SEQ ID NO. 4, SEQ ID NO. 8, SEQ ID NO. 12, and SEQ ID NO. 15.

53. (withdrawn) The diagnostic kit according to claim 50, wherein at least one of the first, second, third and fourth primers is fluorescence marked.

54. (withdrawn) The diagnostic kit according to claim 53 wherein one of the first and second primers of the first primer pair, the third primer and optionally the fourth primer are provided with fluorescence markers that differ from one another with regard to adsorption and/or emission spectra.

55. (withdrawn) The diagnostic kit according to claim 48, comprising a defined amount of mRNA or cDNA of at least one of ß5-hCG and ß7-hCG as a standard.

56. (withdrawn) The diagnostic kit according to claim 48 for prospective or retrospective diagnostic of endometrial receptivity for implantation of an embryo.

57. (withdrawn) The diagnostic kit according to claim 48 for tumor diagnosis.

58. (withdrawn) A variant ß6e of the ß6 gene or ß7 gene having a nucleic acid sequence SEQ ID NO. 7 and/or coding for a protein with the amino acid sequence selected from the group consisting of SEQ ID NO. 17 and SEQ ID NO. 18.

59. (withdrawn) A marker for prospective or retrospective diagnostic of endometrial receptivity for implantation of an embryo, wherein the marker has a gene sequence according to claim 58 or SEQ ID NO. 5 or SEQ ID NO. 6.

60. (withdrawn) A marker for tumor diagnostic, wherein the marker has a gene sequence according to claim 58 or SEQ ID NO. 5 or SEQ ID NO. 6.

61. (withdrawn) A method for prospective or retrospective diagnostic of endometrial receptivity for implantation of an embryo and for tumor diagnostic by of real-time RT-PCR, the method comprising the step of employing gene sequences SEQ ID NO. 1 to SEQ ID NO. 16 with or without fluorescence marker conjugation for measuring quantitatively gene expression of at least one of ß5-hCG, ß8-hCG, ß3-hCG, ß7-hCG, ß6-hCG, and ß6e-hCG.

62. (new) The method according to claim 31, comprising the step of collecting cells from the uterine cavity or cervical cavity as the tissue sample for determining the receptivity of the endometrium for an embryo in the actual cycle.